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Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien



Identifying Seabird Diagnostic Features

IOTC ROS SFO TR10.2

Category: Identification of sea turtles,
seabirds and cetacean's species

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OBSERVATION AND IDENTIFICATION OF PELAGIC SEABIRDS IN THE INDIAN OCEAN

1. Ecology
2. Identifying features
3. Main species identification key chart
4. Criteria for identification
5. Interactions with fisheries



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This presentation aims to introduce you to the seabird life cycle and the identification of seabirds via anatomical and diagnostic features



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SEABIRDS ECOLOGY

- ☐ Nest in isolated oceanic islands, naturally devoid of predators
- ☐ Feed at sea from a few hundred meters to several thousand kilometers m from their breeding sites (depending on species)
- ☐ Present a variety of diet and dietary research behaviors
- ☐ Many species associate with large surface predators (e.g. tuna, cetaceans)
- ☐ Often attracted to fishing boats, mainly because of discards
- ☐ Most are highly migratory, leaving their colonies completely after breeding



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Many of the seabird species encountered are endangered due to high mortalities from interaction with fishing gear or loss of habitat. Most nest on remote islands in both tropical and sub-Antarctic environments away from natural predators and human interaction.



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Attracted to vessels and / or floating objects



Seabirds are also often attracted to both natural and man-made floating objects at sea where their prey, usually fish and other marine fauna, often aggregate in the open ocean for shelter.

Birds are also attracted to fishing vessels as they regularly discard used bait and fish offal, providing an easy opportunity for food at the surface.

Other vessel operations, such as setting pelagic longliners, also provide feeding opportunity for snatching bait off a hook as the hook is sinking and put them at risk of entanglements and mortality.



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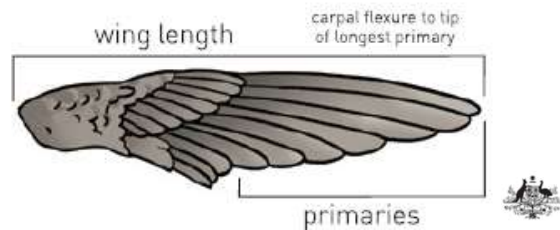
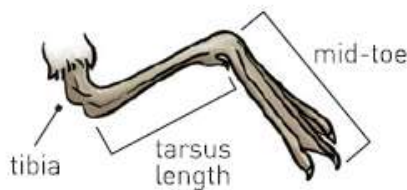
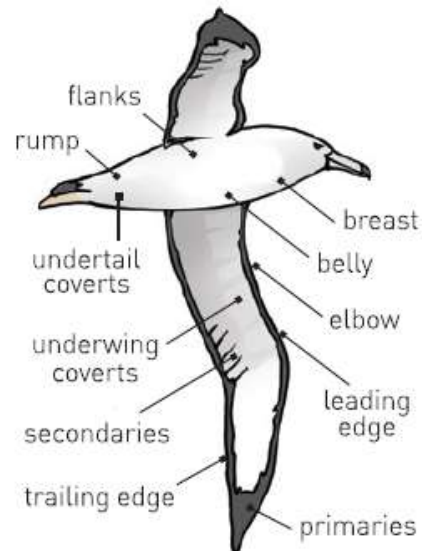
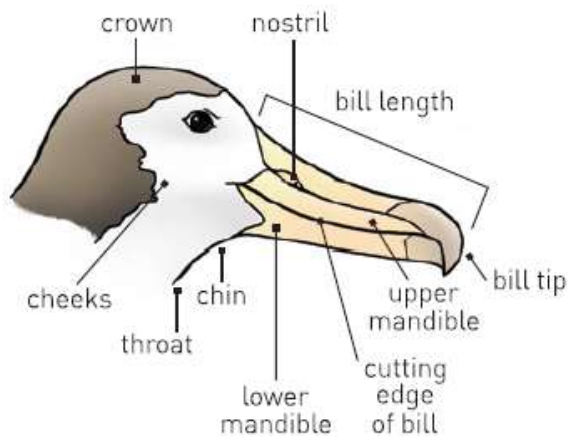
Migration of seabirds in the WIO



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Most seabirds are known to travel long distances to their feeding grounds, following seasonal winds and available food, staying out at sea for years before returning to their original breeding sites.

IDENTIFYING FEATURES



Seabirds have various features that observers need to identify to assist with identification. These features also vary for the same species, depending on the maturity of the bird that can lead to the risk of mis-identification.

Most of these usually feature are highlighted in identification guides (See IOTC Seabird ID Cards), however, the detail if many identification guides would require closer investigation only possible when handling a dead bird.

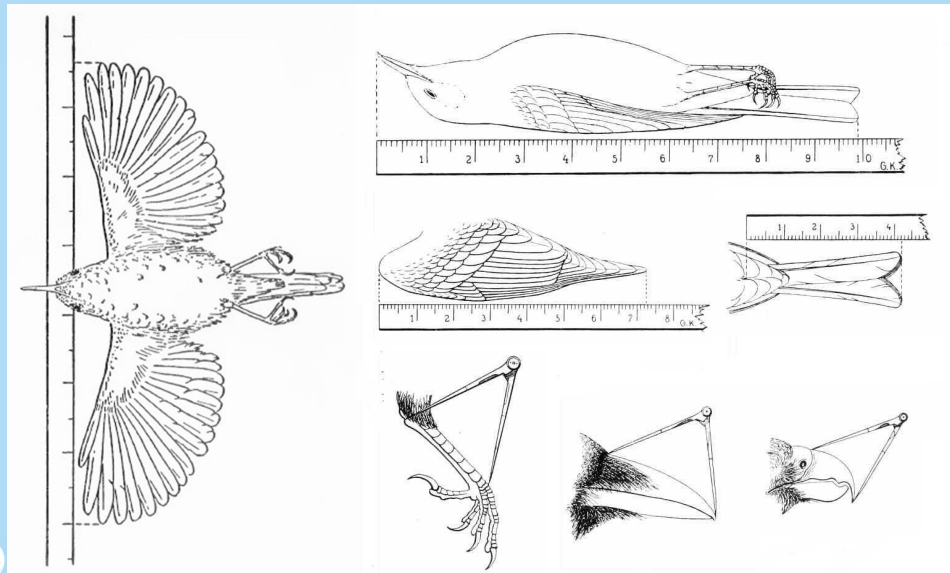


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MEASUREMENTS



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You may have to record certain biometric information of seabirds if they are accidentally caught by a fishing vessel.

Some of the features you encounter can be recorded in your notebook and photographs taken for identification and research purposes



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CRITERIA FOR IDENTIFICATION

Organized by order of importance to ease identification

1. Relative size and wingspan length
2. Flight silhouette
3. Light / dark contrast of the plumage
4. Hunting / fishing behavior
5. Underwater activities
6. Shape of the bill and nostrils
7. Shape of the feet



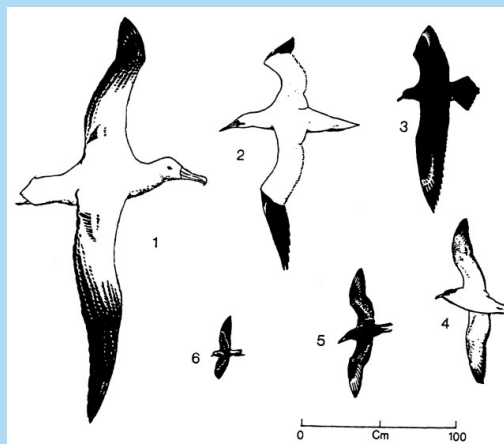
Many species of seabird look very similar at first glance, but requires close scrutiny to ensure a certain identification.

When Identifying seabirds, it is critical to use all tools and features available to you to ensure the correct identification of the species in question.



1. Relative size and wingspan: six size classes according to the wingspan

1. More than 2 meters (albatross, pelicans, frigates)
2. From 1.5 - 2 meters (boobies)
3. From 1 - 1.5 m wide (gulls, skuas, straw-tails, etc.)
4. From 0,8 – 1 m (puffins, sterns)
5. From 0.6 – 0,8 m (puffins, sterns)
6. Less than 0,6 m (frigates, terns, oceanite)



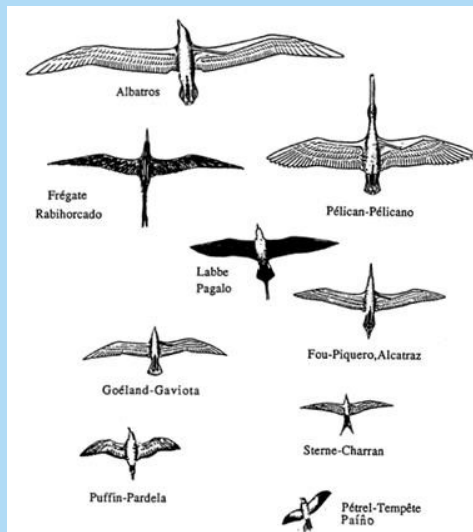
Take note how large the wingspan is of some of these seabirds – wandering albatross can reach 3.5 m wingspan.

Handling these animals onboard when they interacted with fishing gear can be a challenge.

Note; that most seabirds fly close to the water surface and may require multiple observations and picture for you to be able to identify them.



2. Flight silhouette



1. Very visible beak (pelican, stern) or relatively visible (bobby, albatross, frigate).
2. Feet visible (only in some storm petrels).
3. Short tail (albatross, pelican) or long (tropical bird, frigate), pointed (bobbies, frigate, tern) or square (skuas, gull).
4. Very long and pointed wings in relation to the body (albatrosses, bobbies, frigates)
5. Relatively proportionate wings (gulls, skuas, terns)
6. Large and rounded wings (petrel).

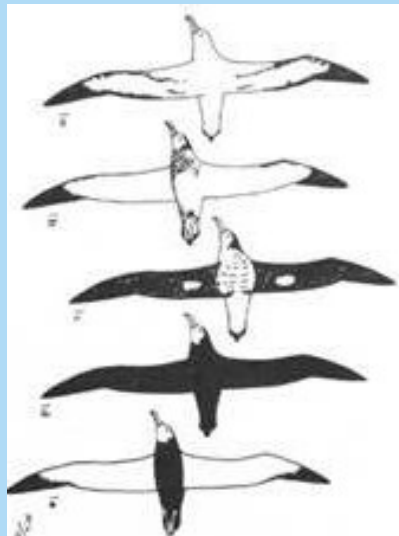
Some seabirds, such as frigate birds and tropic birds often fly above the height of the vessel and you can often see them clearly from underneath. This behaviour can aid in their identification.



3. Light / dark contrast of the plumage

The essential colors of the plumage of pelagic birds form contrasts between the belly, in general light and the dark back:

1. Beige / brown in immatures
2. Whitish / gray in adults.



Consider both adult and juvenile examples in ID guides to avoid confusion between species.



4. Fishing / hunting behavior

1. Surface diving: without stopping the flight, hunting more or less near the surface
2. Aerial pursuit: the predator bird pursues another bird to make them release THEIR prey
3. Aerial piracy: the predator bird pursues the fisherman bird and obliges it to regurgitate the fish (parasitic behaviour).
4. The low flight: the bird, touches the surface of the water with its beak to catch prey
5. Flight on the spot: the bird flies on the same spot waving its legs giving the illusion that it trots on the water, it pecks at the prey that it located on the surface
6. Drop & fly: the bird finds its prey in flight, lands on the water to seize it and then flies away
7. Surface dive: the bird sitting/perched at the water surface, dives in search of its underwater prey



Aerial activity, feeding or diving behaviour can be described in your report in case of bird interaction. Their behaviour can also be used to identify certain species when in doubt.



5. Underwater activities

8. Direct diving: the bird in flight dives vertically to great depth
9. Tilt diving: the bird tilts in flight and dives on its underwater prey
10. Dive from the air: the bird dives from flight and pursues prey underwater
11. Surface capture: the bird sits on the water plunges the head and neck to catch prey
12. Swim and chase: the bird swims and chases fish under the surface using its wings
13. Dive from surface: the bird swims on the surface and uses its fins to propel itself under water in pursuit of its prey (cormorant);
14. Deep-sea fishing: surface diving at great depth using wings (petrels).



Some birds feed only at the surface, whilst some will dive several metres below the surface from a perched or aerial approach.

White-chinned petrels are extremely deep-diving and have been observed travelling down to depths of 67 m. Their ability to dive down and take the bait on longlines also makes them vulnerable to mortality in this fishery.



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6. The shape of the beaks and nostrils

Albatrosses: Nasal tubes with separated nostrils



Shearwaters: Nasal tubes with fused nostrils on top of long slender bill.



Petrels: Nasal tubes with fused nostrils on top of short, thick based bill.

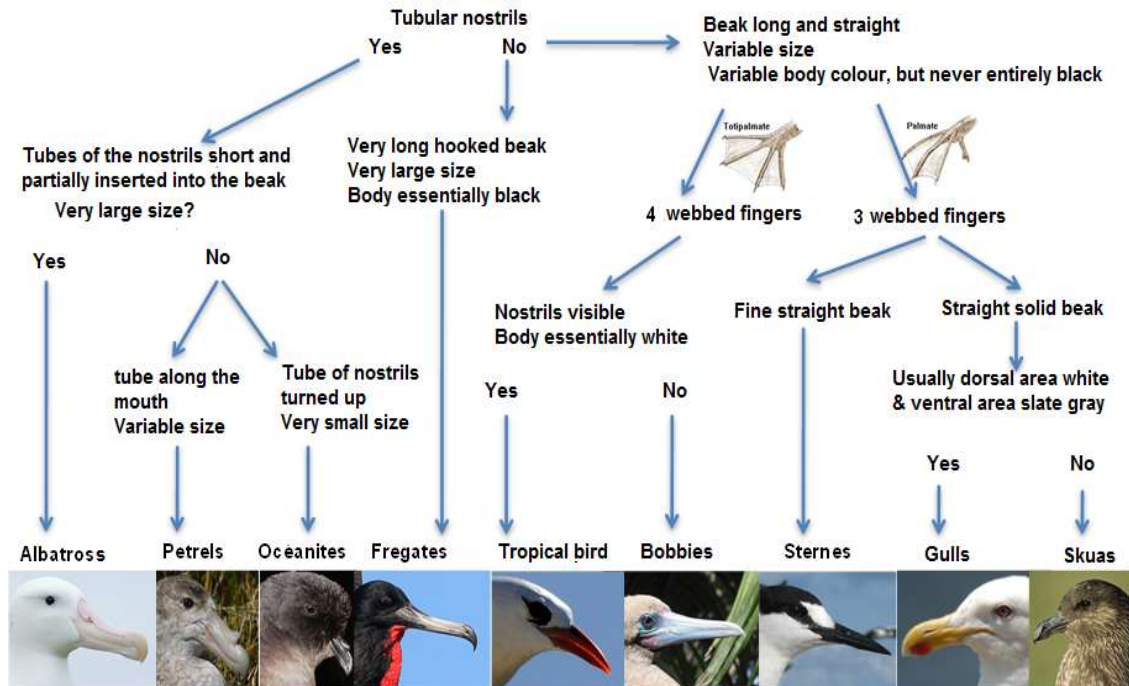


Other seabirds: No nasal tubes just nasal cavities instead.



Nasal tubes are utilised for locating prey through seabirds' incredible sense of smell. They are also a useful identification feature in some cases.

BIRD IDENTIFICATION KEY BASED ON THE SHAPE OF THE BEAK, NOSTRILS AND FEET



Using this key based identification method, you should be able to find the family of birds that includes the exact species that you are trying to identify



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ANY QUESTIONS?

The screenshot shows the 'Messages' section of the Talents LMS. At the top, there is a navigation bar with the user's name 'T. Athayde', roles 'Instructor', and links for 'Messages' and 'Help'. A search bar is also present. Below the navigation bar, the 'Messages' section is active, showing tabs for 'Inbox' and 'Sent'. A 'Send message' button is visible. Below this, a table header is shown with columns: 'From', 'Subject', 'Date', and 'Options'. The table body is currently empty.

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